

COASTAL CITY ADAPTATION PROJECT

SECOND ANNUAL WORK PLAN (FEBRUARY 2015 – JANUARY 2016)



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ACRONYMS

ACCRA Africa Climate Change Resiliance Alliance

AJAQ Association of the Young Friend of the City of Quelimane (Associação

dos Jovens Amigos da Cidade de Quelimane)

ANAMA Association of the Inhabitants and Friends of Madal (Associação dos

Naturais e Amigos da Madal)

ANAMM National Association of Municipalities of Mozambique (Associação

Nacional dos Municípios de Moçambique)

ATAMOZ Association of Bicycle Taxis of Zambezia (Associação dos Taxistas de

Motociclos da Zambézia)

CCA Climate change adaptation
CCAP Coastal City Adaptation Project
CCKC Climate Change Knowledge Center

CDS-ZC Center for Sustainable Development of Coastal Zones (Centro de

Desenvolvimento Sustentável - Zonas Costeiras)

CDS-ZU Center for Sustainable Development of Urban Zones (Centro de

Desenvolvimento Sustentável - Zonas Urbanas)

CMCP Municipal Council of the City of Pemba (Conselho Municipal da

Cidade de Pemba)

CMCQ Municipal Council of the City of Quelimane (Conselho Municipal da

Cidade de Quelimane)

CONDES National Sustainable Development Council (Conselho Nacional de

Desenvolvimento Sustentável)

CSO Civil society organization

CVCA Climate Vulnerability and Capacity Analysis

CVM Mozambique Red Cross (Cruz Vermelha de Moçambique)

DANIDA Danish International Development Agency

DNDA National Directorate of Municipal Development (Direcção Nacional de

Desenvolvimento Autárquico)

DRM Disaster risk management
DRR Disaster risk reduction
GOM Government of Mozambique

GUC Grants under contract

HNI Human Network International

ICLEI International Council for Local Environmental Initiatives ICMA International City/County Management Association

INAM National Institute of Meteorology (Instituto Nacional de Meteorologia) INGC National Disaster Management Institute (Instituto Nacional de Gestão

de Calamidades)

INPF National Institute of Physical Planning (Instituto Nacional de

Planeamento Físico)

LAP Local adaptation plans

MAE Ministry of State Administration (Ministério da Administração Estatal)
MICOA Ministry of Coordination of Environmental Affairs (Ministério para a

Coordenação da Acção Ambiental). The functions of MICOA have

been largely absorbed by MITADER (see below) with the reorganization of the executive branch in January 2015.

MISAU Ministry of Health (Ministério de Saúde)

MITADER Ministry of Lands, Environment and Rural Development (Ministerio

da Terra, Ambiente e Desenvolvimento Rural)

MOU Memorandum of understanding

MOPH Ministry of Public Works and Housing (Ministério da Obras Públicas e

Habitação)

MPD Ministry of Planning and Development (Ministério da Planificação e

Desenvolvimento)

NGO Nongovernmental organization

SARUA Southern African Regional Universities Association

SDAE District Offices of Economic Activities (Serviços Distritais de

Actividades Económicas)

SDEJT District Offices of Education, Youth and Technology (Serviços

Distritais de Educação, Juventude e Tecnologia)

SDPI District Offices of Planning and Infrastructure (Serviços Distritais de

Planeamento e Infraestrutura)

SMS Short message service TA Technical assistance

UEM Eduardo Mondlane University (Universidade Eduardo Mondlane)

UniLurio Lurio University (Universidade Lurio)

USAID United States Agency for International Development

SECTION I

Introduction to Second Year Work Plan

The second work plan for the Coastal City Adaptation Project (CCAP) was developed through a three-phase, collaborative process that provided the CCAP team the opportunity to effectively engage with stakeholders and partners based on a concrete set of objectives. Through this process, the CCAP team, stakeholders, and partners generated a shared understanding of the project's mandate and expected results, and indentified a set of activities to closely respond to the needs of the municipalities.

- 1. Development of the first year work plan framework. As the first phase of the process, we developed the first work plan during a two-day workshop with a small working group. The working group included United States Agency for International Development (USAID) representatives, CCAP project staff, subcontractor Human Network International, a Mozambican architect/urban planner, and Eduardo Mondlane University (UEM) faculty members that have been engaged on a number of climate change adaptation (CCA) initiatives in the country, including the drafting of the National Disaster Management Institute's (INGC) Responding to Climate Change in Mozambique, Phase II report.
- 2. Consultation with partners and stakeholders. We discussed the first year work plan with the project's main stakeholders. We also reviewed the work plan in detail with the technical staff of the municipalities of Pemba and Quelimane and community representatives. These consultations helped us adjust the work plan to respond to current circumstances, generate buy-in, and identify potential partners and the areas of collaboration.
- 3. Preparation of the second year work plan. The second year work plan (this document) is the result of extensive discussions with our local partners and represents significant adjustments in activities and implementation arrangements. Through this process, CCAP has gradually evolved from a primarily technical assistance (TA) project to one that has significant field-based operations aimed at designing and implementing demonstration projects that directly benefit the most vulnerable communities in the target cities.

Project Overview

A wide array of evidence persuasively demonstrates that proactive investments in adaptation can cost-effectively avert a significant portion of the projected costs of climate change while yielding substantial co-benefits. To facilitate this process in vulnerable Mozambican coastal communities, CCAP is working with municipal governments to increase understanding of urban adaptation issues and increase the application of management options for urban adaptation, with particular emphasis on the most vulnerable communities within the city limits. CCAP is also engaging with other national agencies, academia and an array of civic organizations to increase climate awareness and the technical expertise of future urban planners and municipal authorities, and to facilitate local adaptive measures.

Specific intended results include:

- 1. Increased understanding of urban adaptation issues by municipal authorities and increased application of adaptation-relevant management options;
- 2. Decreased vulnerability to climate change for the population of select coastal cities;
- 3. Increased local capacity for managing resources to adapt to climate change; and
- 4. Synthesis and dissemination of lessons learned regarding coastal adaptation in urban settings, which can be applied by other coastal cities and future USAID urban adaptation efforts.

In the work plan, we have indicated the result that each activity supports to ensure that the activities are aligned with project objectives.

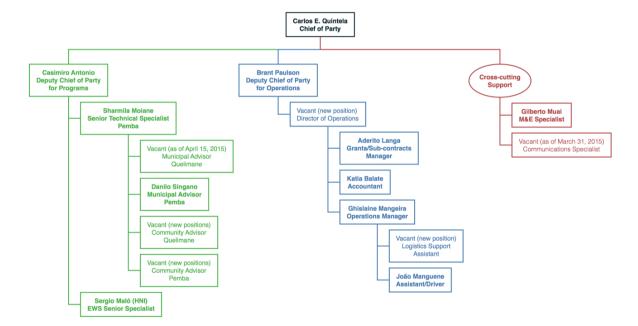


Figure 1. CCAP organization

Project Organizational Structure

The CCAP project team (see Figure 1) operates from our central project office in Maputo and satellite offices in Pemba and Quelimane. Currently, we have two staff members in Pemba, the senior technical specialist, responsible for the coordination at the level of the municipalities, and one municipal advisor. The municipal advisor in Quelimane and the communications specialist have recently resigned, but we are currently recruiting for their replacement. To strengthen our operations capacity and to free the time of the DCOP/Operations to focus on the capacity building activities, we will be adding two positions: operations director and a logistics assistant. And to strengthen our presence in the field we will hire a community advisor for each of the cities. This arrangement will allow the municipal advisors to focus their attention on the municipalities and the community advisors to focus on the work at the community

level, including the demonstration projects (e.g., resilient housing, latrines, water catchment, solid waste and green infrastructure).

Based on each municipality's unique capacity building needs, the Maputo-based members of our project team will travel to each municipality as needed and will maintain regular virtual contact with key municipal counterparts, university partners, local subcontractors and grantees, and non-governmental organizations and civil society organizations (NGOs/CSOs). A key feature of our approach is first, to identify the needs and priorities of the local stakeholders and, second, to establish relationships with local partners in Pemba and Quelimane. This approach allows us to increase our "operational footprint" in the target municipalities while leveraging local engagement for targeted interventions. Ultimately, this will allow us to accomplish project objectives, and increase the likelihood that activities will be sustained after the project ends.

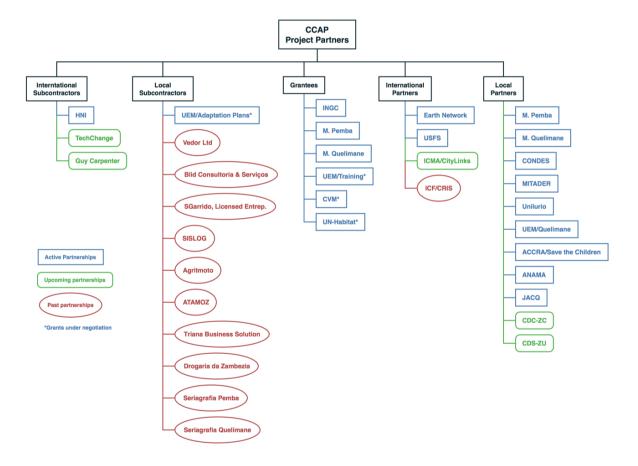


Figure 2. CCAP Partners, grantees and subcontractors

During the first year, the number of partners of CCAP has increased, and will continue to increase as CCAP consolidates current activities and initiates new activities (see Figure 2). Some of the partnerships have also evolved during the implementation of activities, notably the project's relationship with INGC. Initially, the early warning and information system was to operate at the municipal level managed largely by the municipality. As the activity evolved it became clear that that not only had INGC the mandate to operate a system like that, but they are better prepared to do it than the municipality. Additionally, INGC could provide the opportunity to expand the system nationwide.

The criteria that we are using to select the different partners and their roles are (1) always based on CCAP's primary objective of increasing the resilience of coastal cities to climate change; (2) partners must bring knowledge and experience because we seek to build on the successes of others; and, (3) even though we aim to learn from others, we and our partners must seek to innovate and improve on the lessons learned.

Results Framework

We have organized the activities in our work plan according to the results framework shown in Figure 3. CCAP has three integrated objectives that will support the overall project goal. Each objective is further broken down into intermediate results (IR), under which corresponding activities are grouped. The results framework provides the foundation for the monitoring and evaluation (M&E) plan.

CCAP updated the results framework since the version presented in the first work plan, primarily by streamlining Objective 1 and creating a specific IR for gender and youth. On this last point, every activity that we undertake takes into consideration gender and age issues, from the planning tools to the demonstration infrastructure projects. However, we think that there is a need for specific interventions (e.g., capacity building, training, outreach) that have gender and youth at the core. This IR will not replace the other crosscutting activities; it will strengthen them.

Project Goal: Climate resilience in selected Mozambican coastal cities increased Objective 2: Adoption of climate Objective 3: Capacity to potentially Objective 1: Provision of resilience measures by communities, implement economic risk-management climate-resilient urban civic, and community organizations, tools, such as insurance plans and services by municipalities including civil society, nongovernmental, contingency funds, for at-risk urban improved and faith-based organizations increased infrastructure and livelihoods increased IR 1.1: Municipal capacity to apply IR 2.1: Citizen knowledge of local IR 3.1: Awareness of innovative riskurban adaptation measures through climate change vulnerabilities and management measures improved science and analysis increased adaptive options increased IR 3.2: Financial management IR 1.2: Application of management, IR 2.2: Community organizations' capacity of relevant municipal ability to implement a local set of risk soft engineering, and hard authorities and structures increased mitigating measures improved engineering climate adaptation measures by municipal authorities IR 2.3: Capacity of future climate through effective citizen engagement change professionals and institutions increased increased IR 2.4: Contributions of women, men, boys, and girls to climate change adaptation more equitable

Figure 3. Results Framework

SECTION II

Detailed work plan

Objective 1: Improve the provision of climate-resilient urban services by municipalities

The activities under Objective 1 focus on upgrading the capacity and technical skills of municipal authorities to plan, manage, and lead the execution of CCA/disaster risk reduction (DRR) strategies. We also introduce participatory mechanisms for identifying and prioritizing adaptation options that combine technically credible and sound scientific analysis with engagement of vulnerable groups and communities in diagnosing problems and designing actions. This will ensure that CCA/DRR plans are technically reliable, responsive to local realities, and maximize the use of local resources for sustainability.

1.1 Increased municipal capacity to apply urban adaptation measures

Activity 1.1.1 Develop assessments, plans, and instruments

Baseline assessments. The first year, we subcontracted local firms to conduct the municipal institutional analyses and the gender and youth analyses in Pemba and Quelimane. The content of these analyses is summarized below. Although the gender and youth analysis are presented here separately, as is in the contract, we decided to combine them since there are many areas of overlap between gender and youth issues. CCAP submitted the gender and youth, and the institutional analyses to USAID for review in August and December 2014, respectively.

- *The municipal institutional analysis* includes a mapping of the municipal organizational structure; a survey of the technical and physical resources of relevant directorates, such as planning and finance, urbanization and construction, public works and housing, and infrastructure, and the professional profiles of municipal personnel.
- The gender analysis includes an assessment of differences between men and women in terms of political, social, economic, and cultural factors that influence the ability of the project to engage them; access to services and land rights; preferred communications channels; and the impacts of climate change and natural disasters.
- *The youth analysis* includes a demographic assessment to help identify the appropriate target age groups for CCAP; social and cultural factors that influence the ability of the project to engage youth; preferred communications channels; and the impacts of climate change and natural disasters on youth.

Municipal resilience baselines using the Local Government Assessment Tool (LGSAT). Also, the first year, we conducted, with support from short-term experts, a baseline on municipality resilience using the LGSAT, developed by the United

Nations Office for Disaster Risk Reduction (UNISDR) to accomplish three objectives as summarized from the UNISDR website¹: (a) help local governments engage with different stakeholders to map and understand existing gaps and challenges in disaster risk reduction in their city or locality; (b) set a baseline and develop status reports for cities and municipalities; and (c) contribute to the national Hyogo Framework for Action monitoring system (HFA Monitor) by providing local-level information. We used this tool, and the Disaster Resilience Scorecard developed by AECOM and IBM, to develop a baseline and status report on the Pemba and Quelimane's resilience to disasters. We presented the preliminary findings of the baseline and status report to our counterparts at the municipalities and will submit a final report final to them the third quarter of 2015. This report will help Pemba and Quelimane better understand their ability to mitigate potential disasters and set priorities to achieve short- and long-term goals. The LGSAT results were submitted to USAID in February 2015. We have programmed two additional updates of the LGSAT analysis in the life of the project, one for 2016 and another for 2018

Climate risk and vulnerability assessment. Under this activity we will produce a comprehensive risk and vulnerability assessment for each city in close collaboration with municipal counterparts, drawing upon existing data from INGC and the former Ministry of Coordination of Environmental Affairs (Ministério para a Coordenação da Acção Ambiental - MICOA), currently the Ministério da Terra, Ambiente e Desenvolvimento Rural (MITADER). CCAP will complete this assessment based on two other products, which are described below: vulnerability maps and the rapid infrastructure vulnerability assessment. All of these products will contribute to the different types of plans that the cities must produce to operate effectively, some of which are required by law.

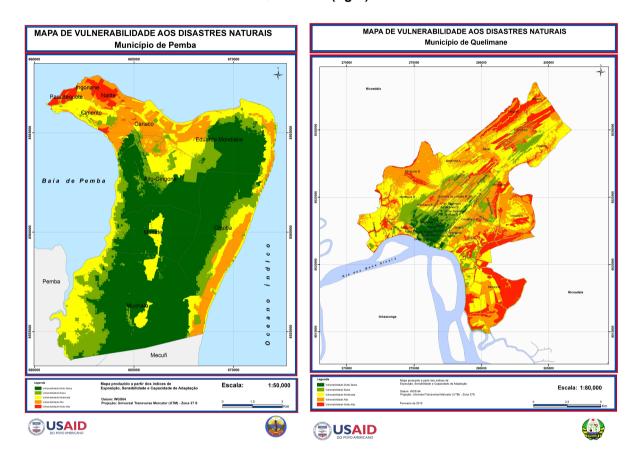
- We started with the production of *vulnerability maps* for both cities (Figure 4), using an open, inclusive and participatory approach. We have conducted two consultation meetings and one training session in each city. The maps are complete. The results of this work will be presented formally to the municipalities and key partners and stakeholders in April 2015. While we prepare for this event, we are proceeding with the formal inclusion of the vulnerability maps into the cadaster database in Pemba and will follow up with Quelimane in the middle of 2015. The objective is to allow the municipality to assess the vulnerability profile of any property before issuing any building permit. This illustrates our practical approach for the development of planning tools, which allows the municipality to use relatively simple and inexpensive tools right away in strategic points along the decision-making process, and at the same time they contribute to the development of larger-scale, longer-term plans.
- We will follow with the production of a *rapid infrastructure vulnerability assessment* aimed at identifying municipal buildings and other infrastructure that are more vulnerable or at higher risk due to the impacts of severe weather and climate-related factors. This initiative will also have a training component for the relevant technical personnel in each municipality, and the production of

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http://www.unisdr.org/campaign/resilientcities/toolkit/howto

a primer on the subject so that the municipalities themselves or local universities can offer future training as part of the induction of new personnel responsible for this area. CCAP completed a scope of work (SOW) for this consultancy and intends to issue an RFP in November 2015.

Figure 4. Vulnerability maps prepared in partnership with the Municipalities of Pemba (left) and Quelimane (right).



• With these products as inputs and in close partnership with the municipalities and other partners, we will conduct the *comprehensive risk and vulnerability assessment in Pemba and Quelimane*. This assessment will be a key contribution to the cities' master plans. It will also serve as an awareness-raising tool directed to government officials and the private sector.

Municipal Adaptation Plans. The fourth element of this activity is the preparation of municipal adaptation plans for Pemba and Quelimane. We will start with the local adaptation planning approach, adopted by MICOA (now MITADER) in the context of the National CCA and Mitigation Strategy approved in November of 2012, with implementation support from Africa Climate Change Resilience Alliance (ACCRA)² in several districts in Mozambique. These local adaptation plans (LAPs) incorporate two robust participatory methodological tools—Theory of Change and Climate

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ACCRA is a research, advocacy and capacity building consortium of Oxfam GB, the Overseas Development Institute (ODI), Care International, Save the Children, and World Vision International. Funded by the UK Department for International Development (DFID), ACCRA works in Mozambique, Uganda, and Ethiopia.

Vulnerability and Capacity Analysis developed by CARE—to identify climate vulnerabilities, evaluate local capacity, and to assist the communities to develop their own solutions. Currently, ACCRA is applying the LAP methodology at the district level to support the development of District Development Strategic Plans (*Planos* Estratégicos de Desenvolvimento Distrital - PEDD). Working closely with ACCRA, MITADER and the municipalities, we will adapt this methodology for its application in urban contexts. CCAP began coordinating this activity with MICOA (now MITADER) and ACCRA in November 2014. We held initial discussions with the Mayors and their senior staff and plan to facilitate formal discussions with a broader set of stakeholders at the municipalities in March and April 2015. CCAP scheduled the planning process in Quelimane for late April 2015 and for Pemba in mid-August 2015. To inform the preparation of the LAPs, we will have a study tour to the city of Durban, South Africa, which is one of the leading cities on CCA. Durban is one of the first cities to modify the LAP to an urban setting. This study tour, which CCAP scheduled for the second half of April, will include the Mayors of Pemba and Quelimane, the focal person in each municipality responsible for this effort, and CCAP's point person for this activity.

Priority neighborhood resilient development plans. Developing master plans for all the cities where we work is beyond the scope and resources of the project. However, we recognize that without a viable master plan that incorporates CCA and resiliency concerns, these cities will lack the data and analyses necessary to make the informed decisions. For that reason, we have adopted a two-pronged approach. As mentioned earlier, we are developing simple and cost-effective tools that will contribute to the preparation of municipal master plan, and can be used immediately in the decision-making process. The second element is to develop resilient development plans at the level of the two neighborhoods that the Mayors of Pemba and Quelimane prioritized and where we now work. These plans will incorporate all the findings from the tools mentioned in this section. We will approach them like a subset of a municipal master plan, incorporating every aspect of the infrastructure and service needs that these neighborhoods require, putting adaptation and resiliency as the prime organizing concepts. We will start working on the resilient development plan for Icídua (Quelimane) in October 2015 and for Paquitequete (Pemba) in January 2015.

Climate change adaptation cost benefit analysis. The final element under this activity is the CCA cost benefit analyses for Pemba, which is part of our current contract. In consultation with our COR, we are proposing to carry out this activity in 2016 because of the large number of activities that are currently being launched and that will be in full implementation for most of 2015. While we prepare to conduct this cost benefit analysis, we were able to include staff from the municipality, INGC and CCAP in the comprehensive course on CCA and mitigation cost benefit analysis conducted by the USAID Climate Economic Analysis for Development, Investment and Resilience (CEADIR) Project activity, in October 2014, in Maputo.

Activity 1.1.2 Design and implement a training program on CCA/DRR for municipalities

We are finalizing a *grant to UEM to design and implement a training program on climate risks and climate resilience* aimed at building the capacity of the municipalities of Pemba and Quelimane and their relevant partners. The specific

objectives of this grant are: (1) to identify training needs on CCA and disaster risk management (DRM) associated with city resilience preparedness based on each municipality profile and existing current and future capacity; (2) to train staff from the Municipal Councils and their relevant partners, including municipality managers, technical staff, and community-based organizations, on relevant aspects of CCA, DRM, and resilience; and, (3) to strengthen the relevant municipality departments on addressing climate resilient development through their respective Municipal Development Plans. UEM will create this training program based on their Master's degree curriculum. We anticipate executing the grant agreement by the end of March 2015 and for the training needs assessment to start shortly after. We expect for the activities under this grant to conclude by December 2015. As will be discussed in Activity 2.2.2, our subcontractor TechChange will use this material to develop webinar that will be offered through local universities, first in Pemba and Quelimane, and later more broadly through other universities in Mozambique.

As part of our capacity building strategy, we are also pursuing the organization of an *international study tour* along three lines. First, we provided assistance to both municipalities in the preparation and submission of their application for the USAID ICMA (International City/County Management Association), CityLinks Partnership Program. We understand that this program is a global initiative and highly competitive, and that there is a relatively small chance that Pemba and Quelimane will be selected as participants. As such, as our second option, we are directly discussing with ICMA a separate collaboration that would involve both Pemba and Quelimane and a city in a Lusophone country. In both cases, the objective is to involve municipal staff and council members, as well as the broader set of actors, including academia, civil society and private sector. As the third option, we would independently organize a study tour to Brazil to a city or cities that have put in place climate adaptation and resiliency measures. We have tentatively scheduled this third option for the first quarter of calendar 2016.

Another integral part of our capacity building strategy is to *organize and participate in relevant national and international events*. We identified four international conferences that could offer opportunities to present the results of the CCAP and to expose key partners from the municipalities, other government agencies, civil society and the private sector to international best practices on coastal urban adaptation. We are currently planning on participating in at least three of the following four international events in 2015:

- National Adaptation Forum, St. Louis, USA May 12-14, 2015. Participate
 in symposium organized by USAID and Notre Dame Global Adaptation
 Index, with the participation of NOAA, Conservation International, and
 CCAP.
- International Council for Local Environmental Initiatives (ICLEI) Resilient Cities 2015 6th Global Forum on Urban Resilience and Adaptation, Bonn, Germany June 8-10, 2015. ICLEI accepted our application to organize a symposium to present the case of Pemba and Quelimane at the forum. We will present three core CCAP activities: (1) the early warning and information system and the municipal data collection and information management system; (2) the vulnerability maps and their application; and, (3) the field

activities: resilient housing, sanitation, clean water and green infrastructure. The Mayors of Pemba and Quelimane and representatives of INGC will lead the symposium presentations.

• ICLEI's Local Climate Solutions for Africa (TBD) – October 2015 (expected). This event, which is not yet formally scheduled, will focus on African cities and, because of this emphasis on climate change solutions, it will offer more targeted learning opportunities to CCAP partners. We will seek the opportunity to present our work in the event and to engage with other groups and individuals working on urban climate adaptation and resilience in Africa.

1.2 Increased application of management options and soft engineering climate adaptation measures, and increased ability to plan and fund hard engineering adaptive options by municipal authorities.

Activity 1.2.1 Support adaptation planning and management units in each municipality.

At the first work planning session, we discussed extensively the need and risks of encouraging the municipalities to set up special adaptation units as suggested in the INGC Phase 2 report. We concluded that we should focus on the existing institutional structures and work within that framework to build the capacity of each municipality as a whole. We have been doing this from the start as we planned and execute every activity listed in this work plan. CCAP staff have consulted and discussed with the appropriate designated staff in each municipality every activity undertaken to date. This approach has also served as a training and capacity building opportunity, which we have complemented with more formal trainings, which are described throughout this work plan and the regular monthly and quarterly reports. After a year of working closely with the municipalities, both have adjusted their structure to accommodate climate change, entirely on their own. For example, Quelimane now has a Division of Environment, Sanitation, and Climate Change (*Vereação de Ambiente, Saneamento e Mudanças Climáticas*). Pemba also has its own Division of Climate Change, Water, and Sanitation (*Vereação Mudanças Climáticas, Agua e Saneamento*).

As we prepared the draft Initial Environmental Examination (IEE) for the USAID/Mozambique mission and the Environmental Management and Mitigation Plan (EMMP) for the project, we saw the opportunity to *strengthen environmental and CCA compliance and enforcement procedures of the municipalities*. To carry out this activity, we will start with a review of environmental and CCA compliance procedures applicable to municipalities, and an assessment of the existing capabilities of each. We will then develop a TA and training plan, targeting municipal employees, the civil society, and the private sector. In addition to the technical considerations, we will promote transparency on the application of the compliance requirements in order to foster greater involvement of a broader set of civil society actors. We expect this activity to start in October 2015.

Activity 1.2.2 Support participatory initiatives for adaptation planning, coordination, and sustainability.

As result of extensive consultations with the municipalities and USAID, we added a series of activities that will have direct impact in the field. The Mayors, with input from their respective teams and CCAP selected one neighborhood in each city to serve as demonstration: Icídua in Quelimane (Figure 5) and Paquitequete in Pemba (Figure 6). The activities mentioned below focus on these two neighborhoods. The objective of these interventions is to test what ideas work best before they are shared, promoted, and replicated in other coastal cities in Mozambique.

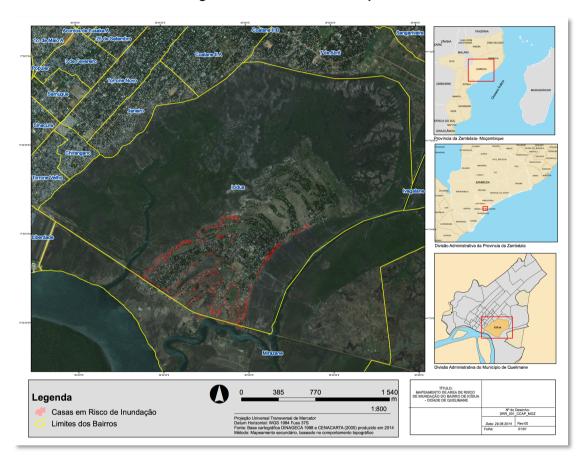


Figure 5. Icídua, Mirazane and surrounding neighborhoods in Quelimane, where mangrove restoration will take place.

• Protect coastal zones with green infrastructure. In Quelimane, we will restore the mangroves along the Bons Sinais River, which forms the southern edge of the city of Quelimane. The neighborhood of Icídua is severely affected by the tides from the nearby ocean, which floods the area on a regular basis particularly during storm surges. The area of reforestation will be the neighborhood of Mirazane, which stands between the river and Icídua (Figure 5). We have conducted a rapid assessment to outline the critical areas and options for the sustainability of this restoration effort, including promoting natural regeneration and alternative economic uses of mangroves and their products. Currently, we are working to bring two nurseries online in partnership with the UEM's School of Marine Sciences based in Quelimane; Associação dos Naturais e Amigos da Madal (ANAMA), an association with experience in the management of mangrove nurseries and the communities of Mirazane and Icídua. Other partners include MITADER, Center for Sustainable Development of Coastal Zones (Centro de Desenvolvimento

Sustentável - Zonas Costeiras - CDS-ZC), and the US Forest Service. The municipality will coordinate this effort with support from CCAP. To take advantage of the seeding season of the mangroves in the area, we will start the restoration activities the second quarter of 2015, and we will adjust it as the growing season progresses based on consultations with our partners in academia and the municipality. Additionally, we will organize a stakeholders' workshops in August 2015, where two of the main priorities will be monitoring and evaluation of the restoration activities and alternative economic uses of mangroves.

The identified priority in Pemba is the stabilization of coastal dunes. We plan to initiate this activity in October 2015. We will follow the same process we did in Quelimane. We will start with a rapid assessment to confirm the initial selection of dunes restoration as the most pressing priority for the reduction of the vulnerability of the critical areas in the city, particularly Paquitequete. A meeting of the principals of the institutions that will be involved in this process—MITADER, CDS-ZU, CDS-ZC, Lurio University (UniLurio), the municipality and others—will follow. CCAP will use the principals meeting to plan a stakeholders' consultation workshop that will include a broader set of actors and potential beneficiaries. While this is taking place, the municipality will identify the areas where the work will be done and CCAP will develop the detailed terms of reference for the activity.

Figure 6. Paquitequete is located at the tip of the Pemba Peninsula in one the lowest and more exposed areas in the city.



In preparation for the implementation of the following four activities, we are currently working with students from UniLurio (Pemba) and UEM's School of Marine Sciences (Quelimane) to conduct an inventory and assessment of (1) houses; (2) latrines, and

their use and effectiveness; (3) water access and use; and, (4) solid waste collection programs. This information will be geo-referenced and photographed for future reference. It should be noted that the tool that is being used to conduct this survey is based on the same platform as the early warning and information system developed for INGC and the municipal data collection and information management system that is being implemented in Quelimane and Pemba.

- **Design and build resilient housing.** In partnership with UN-Habitat, we will be designing 12 sample resilient homes in each city. After a lengthy discussion and negotiation with UN-Habitat, we are close to signing the agreement that will start this activity. We have already conducted a rapid assessment of Icídua and Paquitequete with an architect from UN-Habitat who will be leading this effort. This activity will consist of three stages. First, we will conduct a participatory housing design process that includes the review of design options with the community and the selection of a few promising options that will be built right away to show the type of product that we will all be developing together. Second, we will train two teams of artisans and local contractors to build these houses. Third, we will build 12 sample resilient houses in each of the priority neighborhoods. While these activities are taking place, we will work closely with the municipality to establish clear and fair criteria of where the houses will be built and who will occupy them. One of the criteria that will be used is the location and level of exposure to the main threats to those neighborhoods. CCAP expects to conclude the work with UN-Habitat in the first quarter of 2017.
- **Reduce open-air defecation.** To reduce open-air defecation in Pemba and Quelimane, we will adopt a modified approach that combines the Community Lead Total Sanitation (CLTS) and Participatory Hygiene and Sanitation Transformation (PHAST) methodologies. The ultimate goal is to achieve effective community engagement and fundamental changes in behavior. This activity started with the inventory of latrine use and effectiveness that is currently ongoing as part of a broader inventory of domestic infrastructure types and uses. The adjustment of the methodological approach is also ongoing and will be completed mid June of this year, which will be followed immediately with its implementation, first in Pemba, at the end of August, and then in Ouelimane in late December. We will implement this activity in the schools Paquitequete and Icídua) in collaboration with the school administrators, teachers and local partners, and through the students reach their homes. We will also work with the community to review, discuss and select the best latrine design for their conditions, and to provide them with training in the adequate maintenance of the latrines. There have been many latrine construction efforts in both the cities. Frequently they have failed because the design is not appropriate to local conditions and preferences, but most importantly, they have failed because of inadequate maintenance of the latrines. We expect that these activities, in one way or another will continue for the life of the project.
- **Promote the use of rainwater collection structures.** The inventory of domestic infrastructure types and uses will also include information about water use and sources. The design of water catchment systems will be part of

the resilient housing design and construction of models that we will do with UN Habitat. We will additionally, include awareness raising on the importance of clean water as part of the sanitation activity, as well as training on the management of clean water systems.

• Improve solid waste management. The inventory of domestic infrastructure types and uses will also provide information about solid waste. We will provide some training and awareness raising on the management of domestic solid waste, and help them develop a system for monitoring and tracking municipal solid waste management, but the expansion of this activity will depend on how the cities improve the management of their landfills and how effective their trash collection and disposal systems is. CCAP does not have the resources or the mandate to address the broader challenges of solid waste management that both cities are facing.

Expand the funding options for resilient infrastructure. Although we will have funds to do the initial design of the priority interventions identified by the municipalities and the communities, we do not have sufficient resource to take them to scale. To expand the interventions, we will work with the municipalities to seek additional funding from multilateral sources that support climate change interventions at the national, subnational, and local levels, such as the Global Environment Facility's GEF Trust Fund, Least Developed Country Fund, Special Climate Change Fund, the Adaptation Fund, and the Green Climate Fund, among others vet identified. We will start with a survey of relevant funding options to access international climate finance, including specific eligibility criteria, requirements, application timing, administrative procedures, and expectations. The survey will include funds already mentioned but may also be opportunity driven as other sources, including bilateral or other multilateral options may be identified as the result of this process. The ultimate goal is to prepare one or more proposals for submission to the relevant selected funding agency and accompany the process in its entirety. CCAP will help the municipalities to strengthen their proposals, properly frame the project, clarify primary and secondary objectives, and steer/support the funding proposal through the application process. Additionally, we will provide two types of training to the municipalities, one on the design and preparation of proposals and the other on the management and implementation of projects financed by the above mentioned climate change funds. We have scheduled this activity to start at in October 2015 and extend into the third quarter of calendar 2016.

Activity 1.2.3 Design and implement multidisciplinary TA and "on-the-job" training plan for municipalities

Because of the close working relationship between the CCAP staff and consultants and the municipality technical personnel, significant TA and on-the-job training has taken place, particularly in the management and operation of the early warning and information system, the design and use of vulnerability maps, and the design of small resilient infrastructure initiatives. This year, we will design a program to more systematically address this need. Starting in September of 2015, we will design a multi-disciplinary TA plan in partnership with Mozambican organizations to ensure sustainability. The areas covered will include vulnerability and damage cost assessment; local climate adaptation planning; coastal zone management; green

infrastructure adaptation measures; design and construction of small resilient infrastructure; project management and fundraising; urban planning; land use management; GIS technology; among others.

Municipal advisors will be responsible for assisting the project team in identifying TA needs, engaging short-term TA, and providing on-the-job training to municipal staff to reinforce skill acquisition and development. We will incorporate communications and behavior change strategies as appropriate for all TA, and we will codify all materials and tools for wider dissemination.

Activity 1.2.4 Design and implement SMS early warning and information systems

The *early warning and information system* that CCAP subcontractor Human Network International (HNI) developed and implemented during the first year consists of integrated four-component platform: (1) early warning notification; (2) emergency data collection; (3) post disaster data collection; and, (4) on-demand information system (3-2-1 Service). To implement this system, we are working closely with municipalities and the provincial INGC delegates. As part of the process, we have engaged local disaster management committee members and other community leaders that represent the backbone of the operation of the platform. This process consists of four phases. The design phase, which concluded in July 2014, involved the establishment of the system in Mozambique, contracting an SMS aggregator to eliminate costs to the operators of the system; training of all the operators; and, designing and testing dashboards, maps, and other visualizations to enhance the ability of decision-makers to allocate resources more efficiently after a disaster. The implementation phase, which has largely concluded, involves the transfer of management responsibility to INGC, while we remain as technical support and assistance. The expansion phase responds to the requirement of INGC provincial delegates that the system cover their entire jurisdiction and not just the urban areas. We are working with them to find cost-effective ways to provide this support, while INGC takes the lead with the training of the local disaster management committee members and other community leaders to operate the platform outside the cities of Pemba and Quelimane. The consolidation phase involves taking the platform to a national scale. This phase includes fully integrating the platform to the INGC core operations and supporting systems at the national level. Unless the early warning and information system expands to the national level, it will be of little relevance to INGC and its long-term viability and sustainability will be compromised. Our goal is to have the early warning and information system fully operational at the national level no later than November 2015. After then, we will continue to work with INGC through the next rainy season to fully consolidate the system.

To facilitate the adoption the expansion of the early warning and information system to a national level, we are providing the INGC Provincial Delegations in Zambezia (Quelimane) and Cabo Delgado (Pemba), the regional CENOE units in Nacala, Caia and Vilanculos, and INGC's national headquarters, with computer equipment dedicated to support the early warning and information system. For two years following the successful implementation of the early warning system at the national level, we will remain involved providing INGC at the national, regional and provincial level with training and technical support. As the technical capacity of INGC grows, our role will shift to providing support to the trainers and the trainers of

trainers and focus our technical assistance to the higher level issues and those issues dealing with the expansion or revision of the system.

The implementation of the on-demand information system (3-2-1 Service) requires the establishment of a partnership with a mobile network operator (MNO), the installation of a dedicated server and supplemental hardware to manage the service, and, the preparation of the information that the service will contain. The original MNO partner selected was Movitel, but negotiations proceeded slowly and became complicated until they finally broke down in early March. HNI then contacted Vodacom and quickly moved to negotiate a contract. We are optimistic that this contract will be finalized by the end of March 2015. As soon as the agreement is signed, we will move forward with the development of the messages that will be included in the 3-2-1 Service, which will be reviewed by panels of experts in Mozambique and abroad. We anticipate that the disaster response material will be ready by the end of August 2015. We will also develop information about other aspects related to CCA and other subjects like health, agriculture, finance, and others over the course of 2015.

While the early warning system is moving to be come a national-level tool for effective emergency response under the management of INGC, the needs of the cities to efficiently collect data for the performance of their function remains. For that reason, using the same platform of the early warning system, DataWinner, we are setting up a municipal data collection and information management system in, both Pemba and Quelimane. The process is also similar to what was done for the early warning system and the data senders and data mangers that were trained then will be largely the same ones that will operate this system. We have already set up their DataWinner accounts so they are able to receive and manage information. The next steps, which are taking place in April of this year, is to support the municipalities to identify priority urban services/sectors for which they will need information to be integrated into the system. The questionnaires for each one of those priority services/sectors, which are likely to different in Pemba and Quelimane, will be developed by early May. Additionally, during the month of May we will provide training and technical assistance to municipal administrators so they can create electronic forms for data collection allowing them adapt the data collection and information management system to their needs as they evolve. In June we will conduct additional trainings for the data managers and data senders so they have the capacity to fully operate the system. Throughout this time, we will be collecting data, testing the questionnaires and develop customized reports and visualizations to meet the needs of the municipalities. The system will be fully operational by the end of July. From that point on and for the following two years, CCAP's role will shift to one of technical advisor the operation of the municipal data collection and information management system, with some training of trainers in order to continue to build the capacity of the municipalities to maintain and expand the system. To facilitate this process, we will donate two computers to each municipality for the management of the system.

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³ HNI is providing this equipment at no cost to CCAP.

Activity 1.2.5 Plan, implement, and manage grants under contract (GUCs), subcontracts and other funding mechanisms that provide financial, technical and capacity support to the targeted municipalities

Although we have already given some in-kind donations to the municipalities and INGC, beginning in September 2015, we will work with municipal staff in Pemba and Quelimane to prepare them to develop, receive, and manage grants for CCA/DRR demonstration projects. The first year of the project was well used to establish relationships with municipal authorities and staff, develop a better understanding of municipal capacity to manage grants, and have a clearer picture of community needs and priorities. We will also assist municipalities to develop partnerships with the private sector, and identify and apply for funding from other sources for CCA/DRR investments.

Objective 2: Increase adoption of climate resilience measures by communities, civic and community organizations, including civil society, NGOs, and faithbased organizations

2.1 Increased citizen knowledge of local climate change vulnerabilities and adaptive options

Activity 2.1.1 Conduct a public awareness and behavior change campaign

We view every project activity as an opportunity to increase knowledge and raise awareness about CCA/DRR options among target communities. As such, we will develop the communication activities in parallel with the activities in the work plan. This will ensure that every activity includes a communications component and that the communications activities do not exist in a vacuum. It will also ensure that we closely integrate them with specific activities that yield tangible results.

All of the communication activities will be a part of a comprehensive, multifaceted communication strategy for increasing knowledge, raising awareness, and promoting social and behavior change. Information we have already gathered and analyzed from baseline activities, such as the municipal institutional, gender, and youth analyses, will be used to determine the most effective communication channels (e.g., newspaper, radio, posters/brochures, and SMS/voice broadcasts) for reaching target audiences, including women, youth, CSOs, the private sector, and vulnerable populations living in peri-urban areas. We will also determine which tactics to use (e.g., inter-personal communication, mass media, etc.) for most effectively reaching the targeted audiences. We will also use this same information to guide the message and materials design and dissemination processes.

Some of these activities started in July when we engaged theater groups in Pemba and Quelimane to perform original works during the project launch. Earlier this year, we took our message to the carnavals of Quelimane and Pemba. In Quelimane we worked with the local bicycle taxi association, ATAMOZ (Associação dos Taxistas de Motociclos da Zambézia) to participate in the parade, produce a folkloric dance, and, more importantly, help coordinate a community event to clean key sections of the city's drainage canals. The youth organization AJAQ (Associação dos Jovens Amigos da Cidade de Quelimane) joined ATAMOZ and spent two weekends helping to clean

drainage canals. CCAP donated tools and equipment for this cleanup effort to the Municipal Sanitation Services with the agreement that this equipment will be used for future drainage maintenance activities. In Pemba, where the carnaval celebrations are much smaller, we supported a group of participants and engaged a group of young musicians to compose and perform a song about the city and climate change. Its catchy rhythm is likely to make it a favorite in future carnavals. We will continue to use opportunities like these to keep the message of climate change adaptation and resiliency at the forefront and visible to entire population.

Activity 2.1.2 Develop and implement CCA/DRR seminars for delivery to local business and municipal/ provincial staff

Building on the CCA/DRR training program for the municipal personnel (Activity 1.1.2), we will work with UEM to develop a longer and more comprehensive seminar targeting the private sector and municipal/provincial staff. We will engage local universities in Pemba and Quelimane in the delivery of the seminar so that capacity to deliver training is fully embedded in local institutions and that this seminar can be repeated on a regular bases by the participating universities. We have scheduled this activity to start in October 2015.

Activity 2.1.3 Support the establishment of the Climate Change Knowledge Center

After a long initial phase, the Climate Change Knowledge Center (CCKC), part of the Academy of Sciences under the Ministry of Science and Technology with close ties to the Ministry of the Interior's Sustainable Development Council (*Conselho de Desenvolvimento Sustentável* - CONDES), started operating in September 2014. The startup phase will be long, but CCKC has hired its first technical staff. We have been in close contact with them, sharing among other things best practices and lessons learned in M&E. We will also explore ways in which project activities/resources can help to support the development of the knowledge center, complementing the work of other donors. As indicated in the first work plan, we expect that any support that CCAP provides the CCKC will take place in late 2015. The specific dates and type of contribution from CCAP will depend on their needs and timetable.

2.2 Improved community organization ability to implement a local set of risk mitigating measures

Activity 2.2.1 Support the development of local committees to serve as first responders, disaster risk managers, and community outreach specialists

Although INGC and the Mozambique Red Cross (Cruz Vermelha de Moçambique - CVM) have formed, trained, and equipped volunteer local disaster committees throughout Mozambique, many more volunteers require additional equipment and training to improve their effectiveness. To address this challenge, we are engaging CVM through a grant to achieve four specific objectives:

• Strengthen the community's informal emergency response capabilities. CVM will train community members to become the front line and first responders in case of emergencies. While there is no one-size-fit-all approach

to emergency situations, a solid and well-trained community is a step forward to better preparedness and effective response to natural disasters.

- Set up a network of community members to support community drills. As part of the first aid training, CVM will train volunteers on emergency preparedness and response and perform a regular community drill. As the INGC has tools to perform this exercise after the conclusion of this grant, CVM will improve and foster the connection between INGC and the community.
- Strengthen the community's solidarity social network. This activity will revamp community internal solidarity mechanisms, which could be activated any time to assist their fellow community members in an emergency situation.
- Provide first aid kits to trained volunteers for rapid interventions during emergencies. The provision of the first aid kit to trained volunteers, especially those located far from health posts, will ensure rapid assistance to those in need.

We will also engage CVM volunteers, supported by INGC provincial representatives, to be a part of the SMS early warning and information system (see Activity 1.2.4). We, working closely with the municipalities, will reach out to the local business community to involve them in these exercises, and to seek their support.

Activity 2.2.2 Train university students through an interactive, online platform, to develop and implement low-cost, demand-driven risk-mitigating measures

Starting the third quarter of calendar 2015, subcontractor TechChange will work in partnership with UEM to create a six-week webinar that will train university students in Pemba and Quelimane from relevant departments, such as environmental science and urban planning, to develop and implement risk-mitigating projects in their cities. We will select students through a competitive application process. The course will include video presentations led by climate change experts (both international and Mozambican), interactive discussions, guides and resources for developing climate change awareness campaigns, and examples of adaptation/DRR solutions. The course will also include community engagement tools, such as the Climate Vulnerability and Capacity Analysis (CVCA) methodology that combines local knowledge with scientific data to build understanding of climate risk and identify practical adaptation strategies.

Faculty advisors will review student exercises to ensure mastery of seminar content and will oversee student fieldwork, such as the use of the CVCA tool with local communities. Upon the completion of the course, participating students will compete in small teams to design a local climate change awareness campaign and adaptation/DRR project. By unleashing the competitive spirit and creativity of youth, we expect the students to develop innovative methods for reaching communities with climate change messages and solutions. CCAP will convene a panel of judges consisting of local and international CCA/DRR experts to evaluate the student proposals (with an emphasis on those that provide meaningful, measurable indicators) and select a winning team for each city. CCAP will award a \$10,000 grant to each

winning team (and provide TA) to implement the identified projects. This course will be made available to universities, government agencies, and organizations interested in replicating it.

Activity 2.2.3 Plan, implement, and manage GUCs, subcontracts and other funding mechanisms that provide financial, technical and capacity support to local universities, students, and NGOs

With the grant manual already approved, we have started to develop a limited number of grants and subcontracts very targeted to the demonstration activities that were added to our work plan during the second half of 2014 (See Activity 1.2.2). Starting in June 2015, with the development and implementation of a training program to potential grantees, we will engage local universities, CSOs, NGOs, community organizations, and local firms to support CCAP objectives. We anticipate using a variety of award types, including: (a) fixed-obligation grants for NGOs, CSOs, and faith-based organization; (b) in-kind grants for informal groups that may not have bank accounts or adequate financial controls in place; (c) fixed-price subcontracts for local service providers for simple, deliverables-based work; and, (d) time and materials subcontracts for more complex TA activities. We will couple grants/subcontracts with strategic capacity building efforts (using tools such as the Non-U.S Organization Pre-Award Survey Guidelines and Organizational Capacity Assessment as appropriate) to increase organizations' and stakeholders' ability to receive direct USAID awards. For organizations that make the transition successfully, we will provide ongoing TA, support, and quarterly audits to ensure funds are being used and accounted for in compliance with USG regulations.

2.3 Increased capacity of future climate change professionals and institutions

Activity 2.3.1 Facilitate initial round of partnerships between U.S./regional universities and Mozambican climate change universities and professionals

We are in regular contact with universities in Pemba, Quelimane, and Maputo to explore opportunities for collaboration. We have closer relationships with UEM in Maputo and Quelimane, and UniLurio in Pemba, but we will continue to expand this network in the coming months. We will restart the process of identifying potential areas for collaboration with universities in the US and other places around the world. Several departments and programs have already expressed interest in partnering with Mozambican universities and/or engaging in research activities relevant to CCAP, such as the University of Rhode Island's Coastal Resource Center; Virginia Tech University's School of Urban Affairs and Planning; the University of North Carolina's Community Preparedness and Disaster Management Program, Department of Health Policy and Management, and Gillings School of Global Public Health; Stellenbosch University's Disaster Mitigation for Sustainable Livelihoods Programme; and, most recently, the Jacobs School of Engineering of the University of California San Diego. Partnerships may include technical exchanges, fellowship for professors, scholarships for students; and, collaborative research and other initiatives. We also envision these partnerships in providing some grant funding to build the capacities of the local universities. We will act as a facilitator until universities in Mozambique and those abroad can structure their own partnerships. We will start this activity in October of 2015.

Activity 2.3.2 Design and implement internship program for municipal offices and relevant private sector firms

By October 2015, we will work with universities, municipalities, and local businesses to develop an internship program. The duration of internships and the number of students participating will depend on the universities' schedules, municipalities' capacities, and students' interests. The internships will target the municipal directorates already receiving TA from the project and businesses that can benefit from human resources in the areas of CCA/DRR.

2.4 More equitable contributions of women, men, boys, and girls to CCA.

Activity 2.4.1 Organize outreach activities aimed at increasing the participation of women

We will employ a range of strategies to ensure that female members of society have equal access to training materials and participation in project activities, including the following:

- Engaging faith-based and community volunteer groups where women have significant representation. We will ensure activities proactively engage women. For example, we will encourage the students participating in TechChange's CCA webinar course to integrate faith-based groups and other women's groups into climate change awareness campaigns and CCA/DRR projects. We will also ensure that communication channels used to promote this course reach females and disadvantaged groups.
- Selecting women as trainers. Women and girls may feel more comfortable receiving information and interacting with other women and girls. Our approach to working with the CVM to deliver training in disaster preparedness and disaster response capitalizes on the fact that many of its trainers are women who will be able to engage their peers in training activities.
- Holding training sessions at times and locations that are convenient to women and arranging for care of dependents. We will work to hold training events during times that are convenient and accessible to women. Additionally, we will seek to develop partnerships with local businesses and community groups that can provide care for dependents that accompany women to training events.
- Combining project activities with events that attract large numbers of women. Recognizing the significant demands on women's time, we will seek out opportunities to combine training events with other events and services in which women may already be participating. For example, if an NGO organizes a health fair, we will use that opportunity to conduct a vulnerability assessment or training on household disaster preparedness.

Activity 2.4.2 Organize outreach activities aimed at increasing the participation of youth

With a guarter of the population of Mozambique being between the ages of 10 and 34 years⁴ young men and women are a major force for change. To take full advantage of their potential, we will use similar approaches to engage youth that we proposing to expand the role of women in climate change adaptation. (1) We have seen that faithbased and community volunteer group are an effective way to reach out and involve youth in climate adaptation activities. The cleaning of the drainage canals in Quelimane during the 2015 Carnaval was a clear example of this. We will also reach out to young men and women to encourage their participation in training activities such as the TechChange's CCA webinar course. (2) We will identify youth leaders to play a visible and active role as trainers, particularly when it comes to disaster response and improved disaster preparedness. (3) We will plan training and community activities when it is convenient for them, taking into consideration the a growing proportion of young people, particularly women, are actively pursuing technical and university-level education. We have started doing this with students of UniLurio in Pemba and the UEM School of Marine Sciences in Quelimane. During March and April we trained 23 students of each university on data collection methods, which involved conducting the surveys of domestic infrastructure mentioned above. We will also develop internship opportunities in the municipalities and with the private sector. (4) We will seek opportunities to reach out and engage young men and women during events, like we did during Carnaval and will do this again during the celebrations of Women's Day in Pemba. Training and awareness raising during such gatherings can be an effective way to advance significant aspects of the climate change adaptation and resiliency agenda that we share with the municipality.

Objective 3: Increase local awareness of economic risk-management tools, such as insurance plans and contingency funds, for at-risk urban infrastructure and livelihoods

3.1 Improved awareness of and capacity to potentially implement innovative risk-management measures

Activity 3.1.1 Complete organizational capacity assessments to determine utilization of insurance or contingency funds at municipal level

An assessment of the use of insurance and contingency funds at the municipalities was included as part of the baseline municipal institutional assessment (see Activity 1.1.1.) completed in December 2014, but its scope was very general. We will conduct a more in depth and comprehensive assessment specifically targeting the use of insurance and contingency funds by the municipality in the fourth quarter of this calendar year.

Activity 3.1.2 Conduct data collection, modeling, and feasibility for risk-management tools

To accurately analyze risk-management options and assess the feasibility of pilot projects, data are required in four areas: frequency and severity of hazards, geographically distributed value and characteristics of physical assets, vulnerability

⁴ http://populationpyramid.net/mozambique/2015/

curves for various asset types based on hazard severity, and financial parameters to inform coverage options. Subcontractor Guy Carpenter will bring its capabilities and experience in model development to build the capacity of the Mozambican organization that is best suited to analyze model options for risk management, including parametric insurance options and contingency funds. By involving a Mozambican organization in this activity, we will help build its capacity to carry out this work going forward. Although rough data are already available, additional data collection is required to make probabilistic models more accurate. Guy Carpenter will oversee the Mozambican organization in the data collection process, conduct the modeling necessary to present a range of risk-management options, and provide the guidance/TA required for this work to be done by a Mozambican team in the future. Once the modeling exercise is complete, Guy Carpenter will consult with insurers, international reinsurers, and other relevant organizations as needed to assess the feasibility of insurance product development and produce a final report outlining the best potential options for pilot projects.

Activity 3.1.3 Conduct annual workshops on financial risk-management measures

Beginning in Year 3, we will hold national workshops on risk-management measures to strengthen awareness of insurance and other risk-transfer options for urban infrastructure and livelihoods. The conference will bring together representatives from the global reinsurance industry; banking, financial, and investment businesses; municipal authorities in the target cities; Mozambican insurance providers; GOM officials; USAID implementing partners working with the private sector; and private sector leaders who own key infrastructure in Pemba and Quelimane or have substantial business interests/operations (e.g., financial institutions, tourism operators, hotel owners, and business associations). The conference's goal will be to guide participants in a constructive dialogue to develop a shared understanding of the barriers to insurance access and develop potential solutions.

3.2 Increased financial management capacity of GOM and relevant municipal authorities and structures

Activity 3.2.1 Provide TA to GOM on fiscal disaster risk financing options

In Year 3, we will work with INGC and other relevant GOM authorities on the feasibility of establishing a national fund for DRM and financing options (or we will provide TA to further develop the fund if it already exists at that time). TA may cover the following:

- Review and critically assess the legal framework of existing funds to inform the fund's design and development.
- Address the lack of awareness of holistic DRM and financing best practices for public entities, and address this knowledge gap (e.g., through drafting and promulgation of international case studies).
- Assess the type, estimated financial needs, and pipeline of funding required from this fund.
- Make recommendations on key design principles for the fund and assess training needs of GOM officials responsible for managing it.

Activity 3.2.2 Design and develop financial management seminar on contingency/disaster response funds

Drawing upon the recommendations resulting from the data collection and modeling (Activity 3.1.2), findings from the annual risk management workshops (Activity 3.1.3), and financing options (Activity 3.2.1), subcontractor Guy Carpenter will lead a seminar for INGC officials, UEM faculty, and other GOM authorities on the design and development of contingency/disaster response funds as part of a holistic, countrywide DRM framework. We will also examine the relevance of this type of seminar for municipal personnel and offer it to them if appropriate.

ANNEX: WORK PLAN BREAKDOWN STRUCTURE AND TIMETABLE

